
Control and Monitoring Grand Rapids Water System 2000 Water Quality Report



**Serving Ada, Cascade, East Grand Rapids,
Grand Rapids, Grand Rapids Township,
Kentwood, Tallmadge Township, Walker and
Ottawa County Communities**

The 2000 Water Quality Report

Federal law requires us to mail this report to all the users on our water system each year. The law is very specific about the technical information it must contain. It is our goal to make this report as informative and understandable as possible and still meet federal regulations. We hope you will take the time to read the following pages to better understand the steps we take to insure your water is of the highest quality.

En Espanol: El informe contiene informacion importante sobre la calidad del agua en su comunidad. Traduxcalo o hable con alguien que lo entienda bien.

Getting Water to Your Home

Between the Lake Michigan Filtration Plant and your faucet a network of dedicated water system personnel and specialized equipment are in place to insure you have a safe and adequate supply of water to meet your needs. This is the pumping and control portion of our operations based out of the Coldbrook Complex on Monroe Avenue.

Control and Monitoring

Through a complex network of radio and phone line telemetry equipment and computer systems state certified operators at the Coldbrook Pumping Station monitor and control the entire water distribution system 24 hours a day. Their job is to maintain system pressures, flows, supply and total storage that will adequately meet the average daily customer demands of 41 million gallons in addition to providing fire protection for the entire service area. Control personnel are ready to respond immediately to any after hour water system problem 365 days a year.



Burton Pumping and Storage

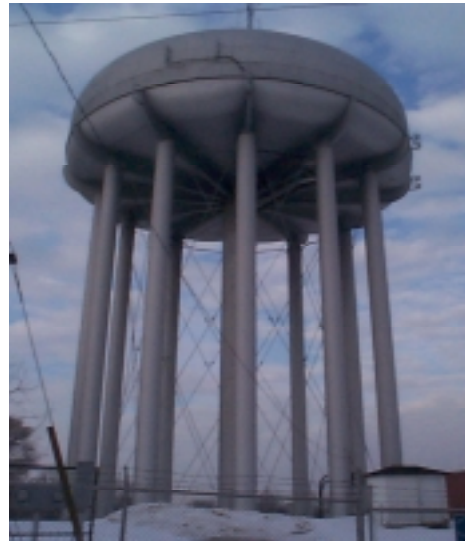


Pumping and Storage

Water is pumped into town through a 46" and a 60" transmission main from the Lake Michigan Filtration Plant. There are 13 pumping stations with multiple pumps of different capacity throughout the water district that are remotely controlled from Coldbrook to either boost line pressure or redistribute water to 6 elevated tanks, 6 ground storage tanks and 3 underground reservoirs. The total storage capacity of the tanks and reservoirs is 77 million gallons. The pumps at Coldbrook take water from the lake lines and supply the central district of Grand Rapids. What this means to you, the customer, is a constant supply of water even when demand fluctuates greatly.

Additionally, the elevated tanks provide steady pressure at your faucet. Each reservoir

and elevated tank has a regular schedule of maintenance and cleaning.



Cambridge Water Tank

Franklin Station Improves Service to Southeast Users

Renovations and improvements to the Franklin Pumping Station were completed in 2000. This project included a 36" dedicated main to supply water to our southeast users and East Grand Rapids as well as state of the art computer monitoring. This project represents a significant service upgrade to meet the water needs of our southeast users for years to come.



Did you know M.L. King Park is on a 16 million-gallon water storage tank and was renovated as part of the Franklin Pumping Station project?

Help Us Serve You Better

There are a several ways to learn more about water quality or become involved. For questions about water quality, contact the Lake Michigan Filtration Plant at 456-3700. Comments on this report can be made on the enclosed postage paid comment card or by calling Water Customer Service at 456-3270. The Grand Rapids City Commission, which sets policies for the Water System, meets on Tuesdays. For meeting times call 456-3168.

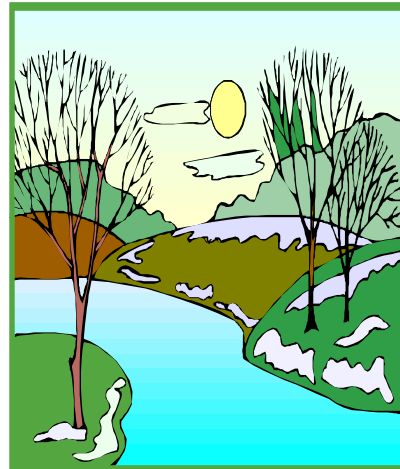
Water Quality & Contaminants

The EPA prescribes monitoring regulations, which limit the amount of specific contaminants in public water systems. The Grand Rapids Water System goes far beyond EPA Requirements, testing for over 200 substances. The table lists substances that were detected in even the smallest amount in the finished water. If you have questions about the table or would like to learn more about our monitoring processes contact the Lake Michigan Filtration Plant at 456-3700.

What is a Water Contaminant?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.



Vulnerable Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infections by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

2000 Table of Contaminants

Regulated Monitoring at Treatment Plant

Substance	Units	Range of Levels Detected	Highest Level Detected	Highest Level Allowed (MCL or TT)	Ideal Levels (MCLG)	Number of Samples Exceeding MCL	Possible Sources of Contaminant
10/13/98)	pCi/L	n/a	2.8	15	0	0	Erosion of natural deposits
Arsenic	ppb	0.001 - 0.001	0.001	50	n/a	0	Erosion of natural deposits
Fluoride	ppm	0.9 - 1.0	1	4	4	0	Water additive which promotes strong teeth
Nitrate	ppm	0.4 - 0.5	0.5	10	10	0	Erosion of natural deposits
Turbidity*	NTU	0.009 - 0.088	0.088	5	n/a	0	Soil runoff

*Our treatment for turbidity was in 100% compliance of the regulatory limit. We are allowed a minimum of 95% compliance.

Regulated Monitoring in the Distribution System

Substance	Units	Range of Levels Detected	Highest Annual Running Average	Highest Level Allowed (MCL)	Ideal Levels (MCLG)	Number of Samples Exceeding MCL	Possible Sources of Contaminant
Total Coliform	% Positives	0 - 0.6	0.6	5	0	n/a	Naturally present in the environment
Total Trihalomethanes	ppb	19 - 40	32	100	n/a	0	By-product of drinking water chlorination

Regulated Monitoring at the Customers Tap

Substance	Units	Range of Levels Detected	90th Percentile	Highest Level Allowed for 90th Percentile (AL)	Ideal Levels (MCLG)	Number of Samples Exceeding AL	Possible Sources of Contaminant
Copper	ppm	n.d. - 0.202	0.031	1.3	1.3	0	Corrosion of household plumbing system
Lead	ppb	n.d. - 66	4	15	0	1	Corrosion of household plumbing system

ICR Required Monitoring at Treatment Plant

This data was collected during 1998 as required monitoring for the Information Collection Rule (ICR).

Substance	Units	Range of Levels Detected	Highest Level Detected	Average Level Detected	Possible Sources of Contaminant
Chloral Hydrate	ppb	1.9 - 4	4	2.6	By-product of drinking water chlorination
Chlorine Residual	ppm	1.2 - 1.5	1.5	1.3	Water additive which kills potentially harmful pathogens
Haloacetic Acids (HAA5)	ppb	7.8 -20.1	20.1	14.3	By-product of drinking water chlorination
Haloacetilenitriles	ppb	2.3 -3.4	3.4	2.9	By-product of drinking water chlorination
Haloketones	ppb	0.6 - 1.3	1.3	1	By-product of drinking water chlorination
Total Organic Halogens (TOX)	ppb	59 - 205	205	110	By-product of drinking water chlorination
Total Trihalomethanes	ppb	18.8 - 29.7	29.7	23.4	By-product of drinking water chlorination

Unregulated Monitoring

Substance	Units	Range of Levels Detected	Highest Level Detected	Average Level Detected	Possible Sources of Contaminant
Bromodichloromethane	ppb	7.5 - 12.0	12	8.9	Compounds of Trihalomethanes
Bromoform	ppb	n.d. - 0.6	0.6	0.5	Compounds of Trihalomethanes
Chlorodibromomethane	ppb	2.8 - 5.1	5.1	4.1	Compounds of Trihalomethanes
Chloroform	ppb	7.9 - 26	26	16.9	Compounds of Trihalomethanes
Sulfate	ppm	26 - 36	36	30	Mineral and nutrient

No Cryptosporidium Detected

Sampling done at the Lake Michigan Filtration Plant indicates that our source water is considered a low risk for cryptosporidium and giardia contamination. During this reporting period, neither of these organisms have been detected in any samples collected from our source water or our treated tap water.

Keeping it all in perspective:

Please note, drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Water Quality Table Key and Definitions

MCL = Maximum Contaminant Level: This is the highest level of a substance that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG = Maximum Contaminant Level Goal: The level of a substance in drinking water below which there is no known or expected health risk. MCLG's allow for a margin of safety.

ppm = Parts per Million: You win a one million-dollar lottery. You give a friend one dollar. That's 1 ppm.

ppb = Parts per Billion: your rich uncle passes away and leaves you \$20 million.

However, in counting your inheritance, you discover that 1 cent is missing. That's 1 ppb.

pCi/l = Picocuries per Liter: Measure of the radioactivity in water.

Turbidity: A measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

NTU = Nephelometric Turbidity Unit: Measurements of the minute suspended particles. Used to judge water clarity.

TT = Treatment Technique: A required process intended to reduce the level of a substance in drinking water.

AL = Action Level: The amount of a substance when exceeded requires a treatment or other response by a water system.

n/a = Not applicable

n/d = not detected

Lead and Household Plumbing

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and young children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791.

Frequently Asked Questions

Can I get my water tested?

Your water is continually tested at the treatment plant and in our mains, but you can have your tap water tested by a private lab for a fee. Look in the Yellow Pages under "Water Analysis." Be sure to ask the lab if they are state-certified for the test you wish to run.

Why is fluoride added to our water?

According to the American Dental Association, persons who drink fluoridated water have a 40% - 50% reduction in the number of cavities that would have occurred without fluoride. Some home filtration devices remove fluoride from the water. Bottled water may or may not contain fluoride. In 1945 Grand Rapids was the first city in the nation to fluoridate the public water supply.

Why is chlorine added to our water?

Chlorine is added to the water as a disinfectant to kill harmful bacteria and viruses. It is the most common method of disinfecting drinking water. If you remove chlorine with a filter, refrigerate the water to limit bacterial re-growth.

What can I do about chlorine taste and odor?

Although the presence of chlorine is a sign of safety some people find the taste and odor unpleasant. You may fill an open pitcher from the tap and let it stand in your refrigerator overnight. The chlorine will be reduced by morning and taste and odor will improve.

Why does drinking water often look cloudy when first taken from a faucet and then clears up?

Cloudy water is most often caused by tiny air bubbles in water similar to gas bubbles in soda pop. The bubbles eventually rise to the top and are gone. Cold water traps more air, so you will notice it more when the lake temperature is cooler. If the cloudiness does not clear up after the water stands for ten minutes call us at 456-3200.

Why is my water sometimes brown or reddish-brown?

The color is most likely due to rust in the pipes or occasionally because of work on the water mains or hydrant flushing which stir up sediments. Rust is not dangerous in terms of health, but it can stain laundry. If your water is discolored, turn on the cold water and let it run for several minutes. If it does not clear up call us at 456-3200.

Grand Rapids Water System

The only thing better than our service is the quality of our water!